TITLE

UJI AKTIVITAS ANTIOKSIDAN EKSTRAK N-HEKSANA KULIT BATANG GALINGGANG (CASSIA ALATA LINN) DENGAN 1,1-DIPHENYL-2-PYCRILHYDRAZIL (DPPH)

ABSTRACT

ABSTRAK

Uji aktivitas antioksidan kulit batang Cassia alata terhadap 1,1-Diphenyl-2pycrilhydrazil

(DPPH) telah dilakukan. Kulit batang C. alata sebanyak 2 kg
dimaserasi masing-masing dengan pelarut n-heksana, etil asetat, dan metanol.
Hasil maserasi diperoleh masing-masing ekstrak sebanyak, 0,34; 2,10; 2,93 g,
kemudian diuji fitokimia. Hasil uji fitokimia menunjukkan bahwa ekstrak nheksana

mengandung senyawa terpenoid, steroid, kumarin, fenol, dan kuinon,
dan tidak mengandung senyawa alkaloid, flavonoid, dan saponin. Ekstrak etil
asetat mengandung senyawa flavonoid, saponin, kumarin, fenol, dan kuinon.
Ekstrak metanol mengandung alkaloid, flavonoid, terpenoid, saponin, fenol, dan
kuinon. Hasil uji aktivitas antioksidan terhadap ekstrak masing-masing ekstrak
diperoleh nilai IC
secara berturu-turut yaitu 34,30 ppm; 37,03 ppm; 58,63 ppm,
vitamin C 5,11 ppm. Ekstrak n-heksana kulit batang C. alata dikromatografi
kolom gravitasi diperoleh 6 fraksi gabungan (A-F). Fraksi gabungan yang
diperoleh diuji aktivitas antioksidan sehingga diperoleh fraksi berturut-turut dari
yang paling aktif adalah C; A; B; E; F; D, dengan IC
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secara berturut-turut
adalah 2,20 ppm; 4,12 ppm; 10,07 ppm; 41,63 ppm; 42,27 ppm; 42,37 ppm, dan
vitamin C 14,62 ppm. Hasil uji aktivitas antioksidan pada fraksi ekstrak nheksana
kulit
batang
C.
alata
menunjukkan
bahwa,
fraksi
yang
memiliki
aktivitas

antioksida

kuat ialah fraksi C, sehingga fraksi C direkromatografi kembali. Hasil
rekromatografi fraksi C diperoleh 5 sub-fraksi gabungan (C1-C5). Hasil uji
aktivitas antioksidan sub fraksi yang diperoleh secara berturut-turut dari sub
fraksi yang paling aktif adalah C5; C1; C3; C4; C2, dengan IC
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secara berturutturut
37,46
ppm;

40,42 ppm; 46,83 ppm; 47;03 ppm; 47,12 ppm. Hasil penelitian menunjukkan bahwa ekstrak kulit batang C. alata, fraksi, dan sub fraksi yang diperoleh memiliki aktivitas antioksidan kuat yang dapat dilihat dari nilai IC 50

Kata kunci: Kulit batang, Galinggang (Cassia alata), Ekstrak n-heksana dan 1,1-diphenyl-2-pycrilhydrazil (DPPH).

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ABSTRACT

The research on antioxidant activity of stem bark of Cassia alata has been conducted against free radical DPPH (1,1-Diphenyl-2-pycrilhydrazil). The C. alata stem bark was macerated with n-hexane, ethyl acetate, and methanol solvents respectively. The result of maceration yielded 0,34, 2,10, 2,93 g extract respectively. The received extract was then evaluated with phytochemical screening. The result of the phytochemical screening shows that coumarin, phenolic compounds, quinones and terpenoids are contained in all extract except in n-hexane extract of C.alata stem bark which does not contain saponins and alkaloid, meanwhile ethyl acetate extract does not contain steroids. The antioxidant activity of n-hexane, ethyl acetate and methanol extracts is evaluated. The result of the antioxidant activity test towards each extract shows the value of IC
respectively as: 34,30 ppm, 37,03 ppm, 58,63 ppm and vitamin C 5,11 ppm. N-hexane extract of C. alata stem bark was evaluated with column chromatography (CC) with the result of 6 fractions (A-F). The combined fraction wich has been received was then evaluated with antioxidant activity test and the values of IC
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which are exhibited by C, A, B, E, F, D respectively are: 2,20 ppm, 4,12 ppm, 10,07 ppm, 41,63 ppm, 42,27 ppm, 42,37 ppm and vitamin C 14,62 ppm. The result of antioxidant test on the fraction shows that the strongest antioxidant activity is exhibited by fraction C, thus fraction C is interested to be evaluated with rechromatography. The rechomatography of fraction C resulted 5 sub-fraction (C1-C5). The antioxidant activity of sub-fraction is evaluated. The result of antioxidant activity test which is received respectively on C5, C1, C3, C4, C2 sub-fraction are: 37,46 ppm, 40,42 ppm, 46,83 ppm, 47,03 ppm, 47,12 ppm. The result of this research on C. alata stem bark shows that: the anti-oxidant activity of fraction extract and sub-fraction is strong andnealy similar to IC
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and
vitamin C.
Keywords: Cassia alata, fitokimia, chromatography, and 1,1-dipheny â€“
2-pycrilhydrazil (DPPH).